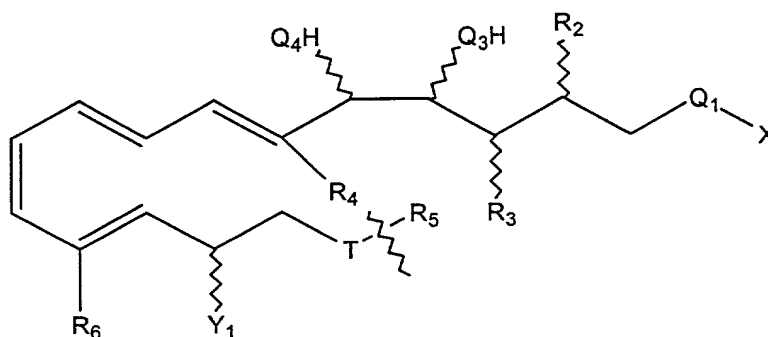


1. A method for modulating a disease or condition associated with phospholipase D (PLD) initiated polymorphoneutrophil (PMN) inflammation in a subject, comprising

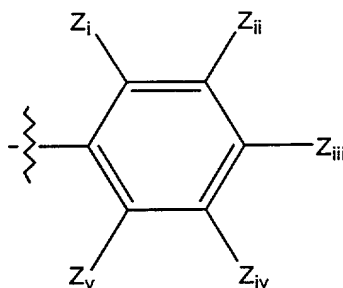
administering to the subject an effective anti-inflammatory amount of a lipoxin analog having the formula



wherein X is R_1 , OR_1 , or SR_1 ;

wherein R_1 is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, $-CN$,

$-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is $(\text{C}=\text{O})$, SO_2 or (CN) , provided when Q_1 is CN , then X is absent;

wherein Q_3 and Q_4 are each independently O , S or NH ;

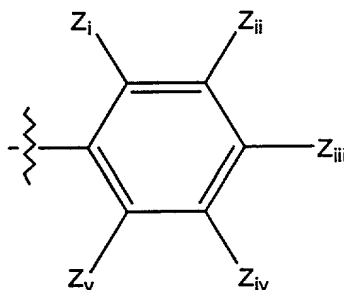
wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H ;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $\text{R}_a\text{Q}_2\text{R}_b$ wherein Q_2 is $-\text{O}-$ or $-\text{S}-$; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R_4 is

- (a) H ;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R_5 is



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-\text{NO}_2$, $-\text{CN}$, $-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is $-\text{OH}$, methyl, $-\text{SH}$, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where $a+b=3$, $a=0$ to 3, $b=0$ to 3 and Z is cyano, nitro or a halogen;

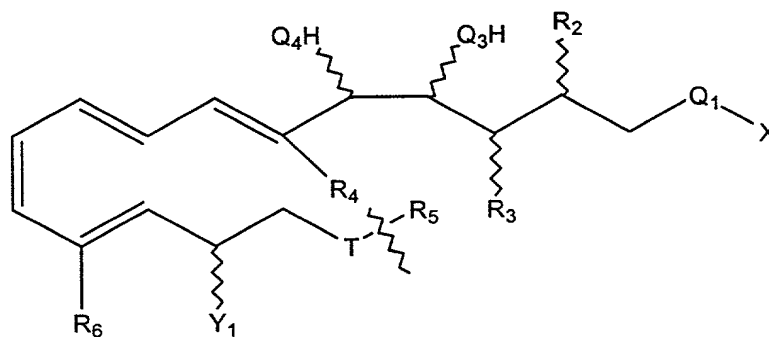
wherein R_6 is

- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S, and pharmaceutically acceptable salts thereof, such that a disease or condition associated with PLD initiated polymorphoneutrophil (PMN) inflammation in a subject is modulated.

2. The method of claim 1, wherein said method is performed *in vitro*.
3. The method of claim 1, wherein said method is performed *in vivo*.

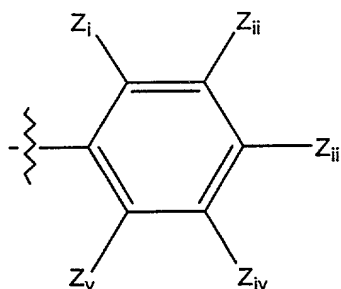
4. A method for treating phospholipase D (PLD) initiated polymorphoneutrophil (PMN) inflammation in a subject, comprising administering to the subject an effective anti-inflammatory amount of a lipoxin analog having the formula



wherein X is R₁, OR₁, or SR₁;

wherein R₁ is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbon atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_i, Z_{ii}, Z_{iii}, Z_{iv} and Z_v are each independently selected from -NO₂, -CN, -C(=O)-R₁, -SO₃H, a hydrogen atom, halogen, methyl, -OR_x, wherein R_x is 1 to

8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent;

wherein Q_3 and Q_4 are each independently O, S or NH;

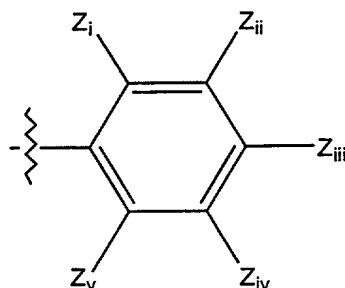
wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_a Q_2 R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R_4 is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R_5 is



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-\text{NO}_2$, $-\text{CN}$, $-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is $-\text{OH}$, methyl, $-\text{SH}$, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where $a+b=3$, $a=0$ to 3, $b=0$ to 3 and Z is cyano, nitro or a halogen;

wherein R_6 is

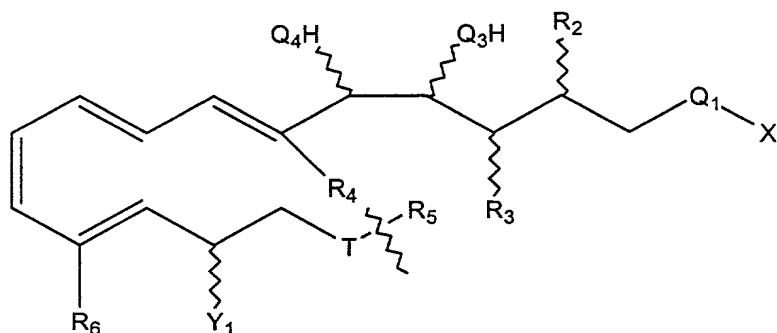
- (a) H ;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S , and pharmaceutically acceptable salts thereof, such that PLD initiated polymorphoneutrophil (PMN) inflammation is treated in a subject.

5. The method of claim 1, wherein said method is performed *in vitro*.
6. The method of claim 1, wherein said method is performed *in vivo*.

7. A method for modulating a disease or condition associated with phospholipase D (PLD) initiated superoxide generation or degranulation activity in a subject, comprising

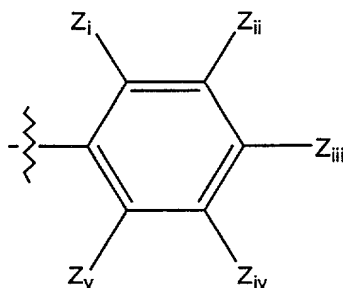
administering to the subject an effective anti-PLD amount of a lipoxin analog having the formula



wherein X is R₁, OR₁, or SR₁;

wherein R₁ is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_i, Z_{ii}, Z_{iii}, Z_{iv} and Z_v are each independently selected from -NO₂, -CN,

$-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- 5 (vii) a detectable label molecule; or
(viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

10 wherein Q_1 is $(C=O)$, SO_2 or (CN) , provided when Q_1 is CN , then X is absent;

wherein Q_3 and Q_4 are each independently O , S or NH ;

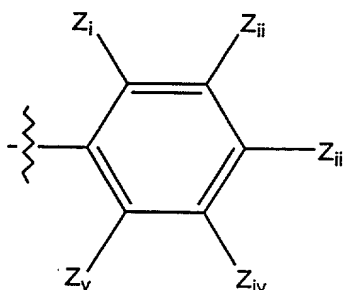
wherein one of R_2 and R_3 is a hydrogen atom and the other is

- 15 (a) H ;
(b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
(c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
(d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
20 (e) $R_aQ_2R_b$ wherein Q_2 is $-O-$ or $-S-$; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

25 wherein R_4 is

- (a) H ;
(b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

30 wherein R_5 is



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-\text{NO}_2$, $-\text{CN}$, $-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is $-\text{OH}$, methyl, $-\text{SH}$, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where $a+b=3$, $a=0$ to 3, $b=0$ to 3 and Z is cyano, nitro or a halogen;

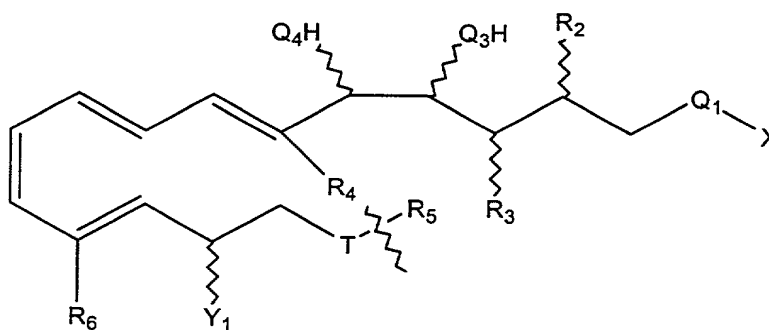
wherein R_6 is

- (a) H ;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S , and pharmaceutically acceptable salts thereof, such that a disease or condition associated with PLD initiated superoxide generation or degranulation activity in a subject is modulated.

8. The method of claim 7, wherein said method is performed *in vitro*.
9. The method of claim 7, wherein said method is performed *in vivo*.

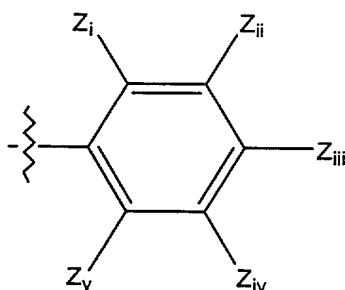
10. A method for treating phospholipase D (PLD) initiated superoxide generation or degranulation in a subject, comprising
 administering to the subject an effective anti-PLD amount of a lipoxin analog
 having the formula



wherein X is R₁, OR₁, or SR₁;

wherein R₁ is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_i, Z_{ii}, Z_{iii}, Z_{iv} and Z_v are each independently selected from -NO₂, -CN, -C(=O)-R₁, -SO₃H, a hydrogen atom, halogen, methyl, -OR_x, wherein R_x is 1 to

8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent;

wherein Q_3 and Q_4 are each independently O, S or NH;

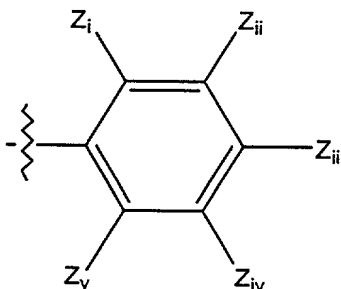
wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_a Q_2 R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R_4 is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R_5 is



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-\text{NO}_2$, $-\text{CN}$, $-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is $-\text{OH}$, methyl, $-\text{SH}$, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where $a+b=3$, $a=0$ to 3, $b=0$ to 3 and Z is cyano, nitro or a halogen;

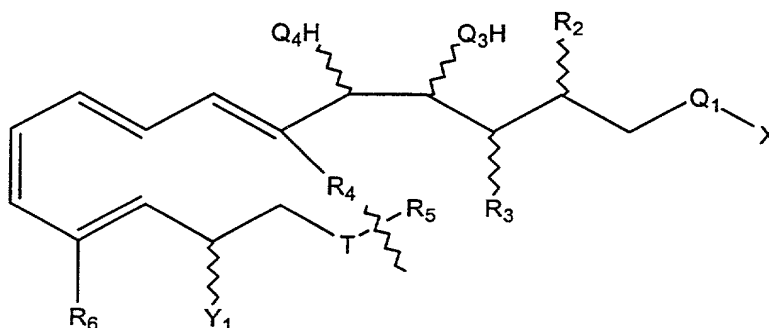
wherein R_6 is

- (a) H ;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S , and pharmaceutically acceptable salts thereof, such that PLD initiated superoxide generation or granulation is treated in a subject.

11. The method of claim 10, wherein said method is performed *in vitro*.
12. The method of claim 10, wherein said method is performed *in vivo*.
13. A packaged pharmaceutical composition for treating a disease or condition associated with phospholipase D (PLD) initiated activity in a subject, comprising:

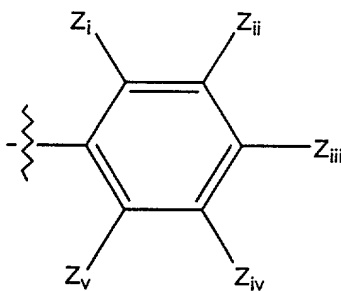
a container holding a therapeutically effective amount of at least one lipoxin compound having the formula



wherein X is R_1 , OR_1 , or SR_1 ;

wherein R_1 is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbon atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, $-CN$, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and

hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent;

wherein Q_3 and Q_4 are each independently O, S or NH;

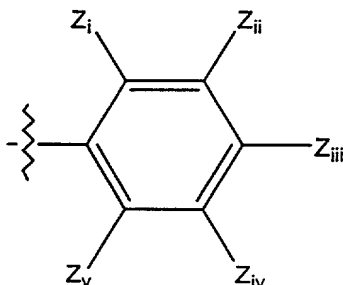
wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_a Q_2 R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R_4 is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R_5 is



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-\text{NO}_2$, $-\text{CN}$, $-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is $-\text{OH}$, methyl, $-\text{SH}$, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where $a+b=3$, $a=0$ to 3, $b=0$ to 3 and Z is cyano, nitro or a halogen;

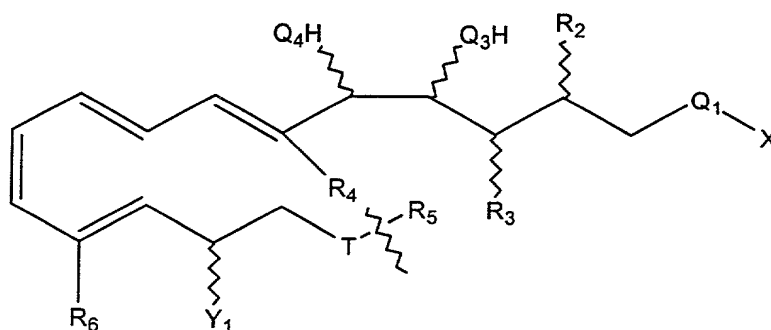
wherein R_6 is

- (a) H ;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S , and pharmaceutically acceptable salts thereof; and instructions for using said lipoxin compound for treating a disease or condition associated with PLD initiated activity in the subject.

14. A packaged pharmaceutical composition for treating phospholipase D initiated activity in a subject, comprising:

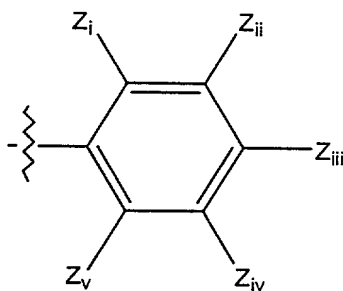
a container holding a therapeutically effective amount of at least one lipoxin compound having the formula



wherein X is R_1 , OR_1 , or SR_1 ;

wherein R_1 is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbons atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, $-CN$, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to

8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent;

wherein Q_3 and Q_4 are each independently O, S or NH;

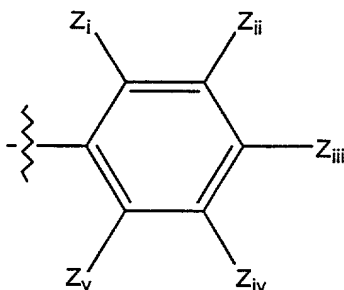
wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_a Q_2 R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R_4 is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R_5 is



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-\text{NO}_2$, $-\text{CN}$, $-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is $-\text{OH}$, methyl, $-\text{SH}$, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where $a+b=3$, $a=0$ to 3, $b=0$ to 3 and Z is cyano, nitro or a halogen;

wherein R_6 is

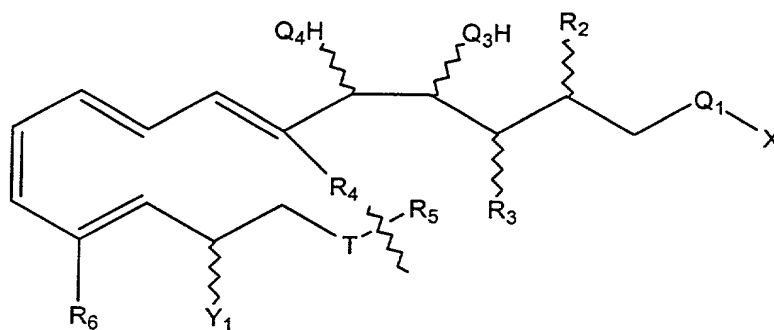
- (a) H;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S, and pharmaceutically acceptable salts thereof; and

instructions for using said lipoxin compound for treating PLD initiated activity in the subject.

15. A packaged pharmaceutical composition for treating a disease or condition associated with phospholipase D (PLD) initiated superoxide generation or degranulation activity in a subject, comprising:

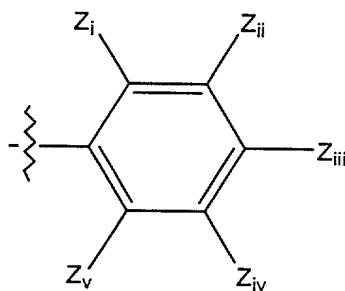
a container holding a therapeutically effective amount of at least one lipoxin compound having the formula



wherein X is R_1 , OR_1 , or SR_1 ;

wherein R_1 is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbon atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, $-CN$, $-C(=O)-R_1$, $-SO_3H$, a hydrogen atom, halogen, methyl, $-OR_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
- (viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is (C=O), SO_2 or (CN), provided when Q_1 is CN, then X is absent;

wherein Q_3 and Q_4 are each independently O, S or NH;

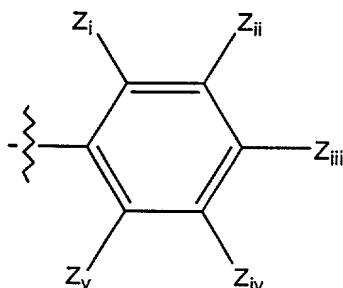
wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H;
- (b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
- (c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
- (d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
- (e) $R_a Q_2 R_b$ wherein Q_2 is -O- or -S-; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R_4 is

- (a) H;
- (b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R_5 is



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-\text{NO}_2$, $-\text{CN}$, $-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is $-\text{OH}$, methyl, $-\text{SH}$, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where $a+b=3$, $a=0$ to 3, $b=0$ to 3 and Z is cyano, nitro or a halogen;

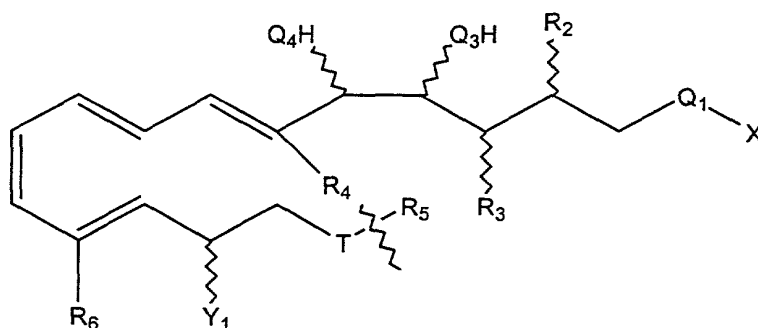
wherein R_6 is

- (a) H ;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S , and pharmaceutically acceptable salts thereof; and

instructions for using said lipoxin compound for treating a disease or condition associated with PLD initiated superoxide generation or degranulation activity in the subject.

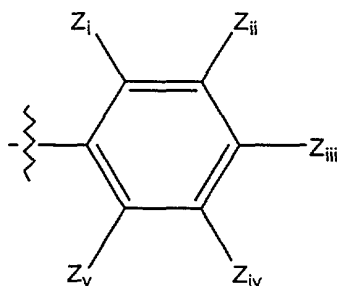
16. A packaged pharmaceutical composition for treating phospholipase D (PLD) initiated superoxide generation or degranulation activity in a subject, comprising:
a container holding a therapeutically effective amount of at least one lipoxin compound having the formula



wherein X is R_1 , OR_1 , or SR_1 ;

wherein R_1 is

- (i) a hydrogen atom;
- (ii) an alkyl of 1 to 8 carbon atoms, inclusive, which may be straight chain or branched;
- (iii) a cycloalkyl of 3 to 10 carbon atoms;
- (iv) an aralkyl of 7 to 12 carbon atoms;
- (v) phenyl;
- (vi) substituted phenyl



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-NO_2$, $-CN$,

$-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl;

- (vii) a detectable label molecule; or
(viii) a straight or branched chain alkenyl of 2 to 8 carbon atoms, inclusive;

wherein Q_1 is $(\text{C}=\text{O})$, SO_2 or (CN) , provided when Q_1 is CN , then X is absent;

wherein Q_3 and Q_4 are each independently O , S or NH ;

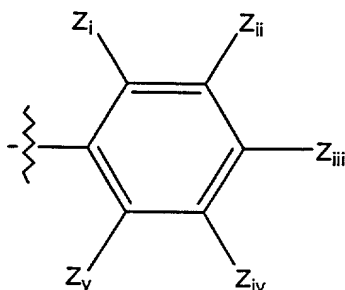
wherein one of R_2 and R_3 is a hydrogen atom and the other is

- (a) H ;
(b) an alkyl of 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched;
(c) a cycloalkyl of 3 to 6 carbon atoms, inclusive;
(d) an alkenyl of 2 to 8 carbon atoms, inclusive, which may be straight chain or branched; or
(e) $\text{R}_a\text{Q}_2\text{R}_b$ wherein Q_2 is $-\text{O}-$ or $-\text{S}-$; wherein R_a is alkylene of 0 to 6 carbons atoms, inclusive, which may be straight chain or branched and wherein R_b is alkyl of 0 to 8 carbon atoms, inclusive, which may be straight chain or branched, provided when R_b is 0, then R_b is a hydrogen atom;

wherein R_4 is

- (a) H ;
(b) an alkyl of 1 to 6 carbon atoms, inclusive, which may be a straight chain or branched;

wherein R_5 is



wherein Z_i , Z_{ii} , Z_{iii} , Z_{iv} and Z_v are each independently selected from $-\text{NO}_2$, $-\text{CN}$, $-\text{C}(=\text{O})-\text{R}_1$, $-\text{SO}_3\text{H}$, a hydrogen atom, halogen, methyl, $-\text{OR}_x$, wherein R_x is 1 to 8 carbon atoms, inclusive, which may be a straight chain or branched, and hydroxyl or a substituted or unsubstituted, branched or unbranched alkyl group;

wherein Y_1 is $-\text{OH}$, methyl, $-\text{SH}$, an alkyl of 2 to 4 carbon atoms, inclusive, straight chain or branched, an alkoxy of 1 to 4 carbon atoms, inclusive, or CH_aZ_b where $a+b=3$, $a=0$ to 3, $b=0$ to 3 and Z is cyano, nitro or a halogen;

wherein R_6 is

- (a) H ;
- (b) an alkyl from 1 to 4 carbon atoms, inclusive, straight chain or branched;

wherein T is O or S , and pharmaceutically acceptable salts thereof; and

instructions for using said lipoxin compound for treating PLD initiated superoxide generation or degranulation activity in the subject.